

**WHAT IS CLAIMED IS:**

1. A method of generating an addressable array of chemical moieties on a substrate, comprising:
  - (a) depositing the moieties onto different regions of the substrate so as to fabricate the array;
  - (b) saving in a memory array related data, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array;
  - (c) shipping the fabricated array, and forwarding the array related data to a remote location.
2. A method of generating an addressable array of chemical moieties on a substrate, comprising:
  - (a) depositing the moieties onto different regions of the substrate so as to fabricate the array;
  - (b) saving in a memory array related data, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array, which array related data is saved in association with an identifier;
  - (c) associating the identifier with the array;
  - (d) shipping the fabricated array, and forwarding the identifier to a remote location.
3. A method according to claim 3 wherein the identifier is associated with the array by applying the identifier to the substrate or a housing carrying the substrate.
4. A method according to claim 3 wherein the chemical moieites are biopolymers.
5. A method according to claim 4 wherein the biopolymers are DNA.

6. A method according to claim 3 wherein the memory is a database, the method additionally comprising retrieving the array related data from the memory and communicating the retrieved data to a remote location in response to receiving a communication of the identifier from the remote location.
7. A method according to claim 31 wherein the memory comprises a portable storage medium, the method additionally comprising shipping the portable storage medium to a remote location.
8. A method according to claim 7 wherein the portable storage medium is shipped to the same remote location as the array.
9. A method according to claim 6 additionally comprising applying a communication address to the substrate or a housing carrying the substrate, which communication address identifies a remote location from which the identity map will be communicated in response to a received communication of the associated map identifier.
10. A method of generating, at a central fabrication station, addressable arrays of chemical moieties on multiple substrates, comprising for each array:
- (b) depositing biopolymers onto different regions of a substrate so as to fabricate multiple arrays;
  - (c) saving in a memory array related data, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array, which array related data is saved in association with a map identifier;
  - (d) applying the identifier to the corresponding substrate or a housing carrying the corresponding substrate; and
  - (d) shipping each of the fabricated arrays with applied identifier to one or more of the remote stations.

11. A method according to claim 10 wherein the chemical moieties are polynucleotides.
12. A method according to claim 10 wherein the polynucleotides are DNA.
13. A method according to claim 10 wherein the memory is a database, the method additionally comprising retrieving array related data for arrays from the memory and communicating the data to remote locations in response to receiving a communication of associated identifiers from remote locations.
14. A method according to claim 10 wherein for each of multiple arrays the corresponding identity map and associated identifier are saved on a memory comprising a portable computer readable storage medium, the method additionally comprising shipping the portable storage mediums to multiple remote locations.
15. A method according to claim 14 wherein each of the portable storage mediums are shipped with the corresponding fabricated array to the same remote location from which the set of biopolymers used in fabricating that array was received.
16. A method according to claim 10 additionally comprising applying a same communication address to each of the substrates or housings carrying the substrates, which communication address identifies a remote location from which each identity map will be communicated in response to a received communication of the associated map identifier.
17. A method of using an addressable array of chemical moieties on a substrate, comprising:
  - (a) receiving the addressable array; and
  - (b) in a processing unit:
    - (i) retrieving array related data from a memory, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array; and

(ii) automatically accessing a program routine for reading the array or processing data from the read array based on the retrieved data.

18. A method according to claim 17 wherein the array is received with an associated identifier and the method additionally comprises reading the identifier, and wherein the array related data is retrieved based on the identifier.

19. A method according to claim 18 wherein the identifier is carried on a substrate for the array, or a housing carrying the substrate.

20. A method according to claim 18 wherein the processing unit automatically presents the user with an opportunity for making one or more possible selections or alerts the user as to a selection based on the retrieved array related data.

21. A method according to claim 20 wherein the processing unit automatically presents the user with an opportunity for making one or more possible selections based on the retrieved array related data is presented by displaying a list of possible selections for a user.

22. A method according to claim 20 wherein the program routine normally presents the user with an opportunity for making one or more possible selections, and wherein the processing unit automatically alerts the user as to a selection, or prevents the user from making a particular selection based on the retrieved array related data.

23. A method according to claim 20 wherein the program routine normally presents the user with an opportunity for making multiple selections by simultaneously displaying the multiple selections, and wherein the particular selection which the user is prevented from making a based on the retrieved array related data is still displayed.

24. A method according to claim 20 wherein the selections are of different routines for reading the array or processing data from a read array.

25. A method according to claim 18 wherein the memory is a remote database, the method additionally comprising communicating the read identifier to the remote database and receiving in response the identity map.

26. A method according to claim 18 wherein the memory is a portable storage medium received from a remote location.

27. A method according to claim 19 additionally comprising:  
machine reading a communication address on the substrate or the housing; and  
communicating the identifier to the communication address and receiving the associated array related data in response.

28. A method according to claim 19 additionally comprising  
exposing the array to a sample; and  
reading the array following the exposure to the sample.

29. A method according to claim 28 wherein the array is read in a same apparatus in which the map identifier is read.

30. A method comprising forwarding a result of an array reading obtained by a method of claim 28, to a remote location.

31. A method comprising transmitting or receiving data representing a result of an array reading obtained by a method of claim 28.

32. An apparatus for producing an addressable array of biopolymers on a substrate, comprising:

- (a) an array fabricator to deposit the biopolymers onto different regions of the substrate so as to fabricate the array;
- (b) a processor to save in a memory array related data, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading

an array, or an instruction on processing data from a read array, which array related data is saved in a memory association with an identifier.

33. An apparatus according to claim 32 wherein the processor causes the array related data to be communicated to a remote location in response to receipt of the associated map identifier from that remote location.

34. An apparatus according to claim 33, additionally comprising a memory in which the processor saves the memory map and associated map identifier.

35. An apparatus for receiving an addressable array of biopolymers on a substrate, comprising a processor which:

- (i) retrieves array related data from a memory, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array; and
- ii) automatically accessing a program routine for reading the array or processing data from the read array based on the retrieved data.

36. An apparatus according to claim 35 additionally comprising a reader which reads a map identifier carried on an array substrate or a housing for the array, and wherein the processor retrieves array related data based on the read identifier.

37. An apparatus according to claim 36 wherein the processor communicates the read identifier to a remote location and receives the identity map in response.

38. An apparatus according to claim 35 wherein the processor retrieves the memory map from a computer readable portable storage medium.

39. An apparatus according to claim 37 wherein the reader also reads a communication address on the substrate or the housing, and wherein the processor communicates the map identifier to the read address.

40. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer communicating with a fabricator to fabricate an addressable array of biopolymers on a substrate, the method of:
- (a) depositing the moieties onto different regions of the substrate so as to fabricate the array; and
  - (b) saving in a memory array related data, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array.
41. A computer program product according to claim 40 which additionally forwards array related data to a remote location.
42. A computer program product according to claim 40 wherein the array related data is saved in a memory in association with the an identifier.
43. A computer program according to claim 42 wherein the program additionally applies a communication address to the substrate or a housing carrying the substrate, which communication address identifies a remote location from which the array related data will be communicated in response to a received communication of the associated identifier.
44. A computer program product, comprising: a computer readable storage medium having a computer program stored thereon for performing, when loaded into a computer, the steps of:
- (a) receiving an identifier associated with array related data;
  - (b) in response to the received identifier:
    - (i) retrieves array related data from a memory based on the identifier, which array related data may comprise any of data on a characteristic of the fabricated array, an instruction for reading an array, or an instruction on processing data from a read array; and

ii) automatically accesses a program routine for reading the array or processing data from the read array based on the retrieved data.

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